

ABSTRACT

A sol comprising a precipitated component in an amount of less than 10 mass% based on the total solid content of the sol and comprising titanium oxide comprising a transition metal compound. When the sol is mixed with a binder which can be hardened at ambient temperature, the mixture readily forms a thin film having high photocatalytic performance on a substrate of poor heat resistance such as plastics or paper. The titanium oxide sol can readily forms titanium oxide thin film on surfaces of a variety of substrate materials such as ceramics, glass, metal, plastics, wood, or paper. Articles to which photocatalytic performance or hydrophilicity is imparted include building materials, fluorescent lamps, glass panes, machinery, vehicles, glass products, household electrical appliances, water purifying apparatuses, agricultural materials, electronic apparatus, tools, tableware, bath products, toiletry products, furniture, clothing, cloth products, fibers, leather products, paper products, sporting goods, beauty-related instruments, health improvement instruments, medical goods, *futon*, containers, eyeglasses, signboards, piping, wiring, brackets, sanitary materials, and automobile parts as well as environmental purification apparatuses/units.